

A REPORT ON MEASURING THE SOCIAL CAPITAL IN WEAK TIES

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March 31, 2004

A Report Prepared for the Policy Research Initiative, Ottawa, Canada

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A REPORT ON MEASURING THE SOCIAL CAPITAL IN WEAK TIES

INTRODUCTION

Researchers and policy makers have recently become intensely interested in social capital because of its importance to both individuals and communities. While many things have been called “social capital,” the core meaning of the term concerns the potential positive value in social networks. Broadly speaking, strong ties and weak ties offer different kinds of potential. Strong relationships, sometimes called “bonding” social capital (Putnam 2000), offer the kinds of assistance and support that come from affection, willingness to help, and considerable knowledge of each other. Weak ties, sometimes called “bridging” social capital (Putnam 2000), offer links between people of different kinds with different locations in social structure. Strong ties tend to be to people much like ourselves, while weaker ties are much more diversified (McPherson et al. 2001). Hence weaker ties connect individual people to a wide range of potential resources that can assist them in work, health, and civic engagement, and weak ties (if well distributed) can be the channels through which communities mobilize for collective good. Both strong and weak ties are important, but strong ties have been much more often studied. Fortunately, at this time there is enough research on weak ties to show they are a vital aspect of social capital, and to show how weak tie social capital can be well measured with a proven effective technology. This report will therefore focus on weak ties and their measurement.

CRITERIA FOR A MEASURE OF SOCIAL CAPITAL

A good measure of social capital should have all of the following advantages:

- 1) A strong theoretical foundation indicating why the measure is a meaningful and valid version of social capital
- 2) A strong track record of substantive performance, that is, known relationships to important causes and consequences
- 3) Desirable measurement characteristics:
 - easy administration (usable in various data collection formats; quick to complete)
 - reliability
 - allows effective comparisons:
 - between various parts of Canada
 - between Canada and other countries
 - useful in longitudinal research

THREE GENERAL OPTIONS

The social capital in people’s wider networks, beyond their few really close ties, can be measured with three quite different general strategies.

1) *The Position Generator*

The best of these is known as the “position generator” because it measures a person’s access to occupational positions through social relationships. Respondents are asked whether or not they know anyone at all in each of a set of occupations ranging from high to low in prestige. The Appendix includes several examples from research conducted in Canada and elsewhere. Nan Lin was the major initiator of this method (Lin and Dumin 1986) and continues to use and refine the approach (e.g. Lin et al. 2001).

This approach is *theoretically meaningful* because occupation is a master role in

contemporary societies. A person's occupation is a good indicator of much about that person's social roles and resources, and hence the kinds of help that a person might be able to provide. People who know others in high status occupations have access to resources found among the more powerful, such as information about and referrals to good job opportunities. One can measure access to high status resources through the position generator by observing the prestige level of the highest prestige occupation in which a person knows someone, or by the extent of a person's access to a range of higher status occupations such as middle class occupations. Further, people who know others in a wide variety of occupations have access to the whole range of different resources found up and down the ladder of prestige, including for example referrals to good blue collar workers as well as referrals to good professionals. One can measure range of resource access easily with the position generator by counting up the number of different kinds of occupations in which a person knows someone, a simple but effective measure of network variety. Network variety is an important resource in its own right (Erickson 2003). Employers often report that a varied network is a job qualification for work in which links to others is a potential resource for the employer, such as many sales and management jobs (Erickson 2001a). And people with diverse networks develop useful attributes and skills such as a greater sense of control over their own lives, and richer linguistic skills (Cosser 1975; Erickson 2003). Research consistently shows that network variety and access to higher prestige positions are very strongly correlated, which makes theoretical sense because higher prestige people are in structural locations that facilitate BOTH ties to other high prestige people and ties to people from top to bottom in prestige (Lin 1982). Meanwhile, network diversity has a stronger measurement base, because it uses all of a person's responses (how many occupations does this person know someone in?) instead of just one (what is the prestige level of the highest ranking occupation in which the person knows someone?) or a subset (such as the number of middle class occupations in which a person knows someone). Since network diversity and access to high prestige occupations are so intertwined, and network diversity is more stably measured, I will focus on network diversity from now on in this report.

Substantively, research has already shown that the position generator is *strongly related to important causes and consequences*. Important sources of network variety include social stratification: in general, advantaged people have richer networks, which helps in turn to maintain their advantages over time. Thus we repeatedly find that network diversity is greater for the more educated, those in better jobs, those in the socially rich middle of the life course, those more active in voluntary associations, and for men in patriarchal societies (see Erickson 2003, 2004). Network diversity is also related to wider social structural characteristics. For example, in Canada network diversity is greatest in rural areas and least in major metropolitan areas, and greater in the Atlantic region than in the rest of Canada (Erickson 2004).

Network diversity also has known, important consequences. For individuals, we know that network diversity is related to a greater sense of control over one's own life (Erickson under review #1), which is a valuable psychological resource that facilitates good health and movement into higher level jobs (Erickson 2003). Network diversity also leads to better jobs because it increases the range of useful contacts (Lin 1999), and because a good network may be a job qualification (Erickson 2001a). Network diversity also promotes cultural diversity, or knowledge about many different forms of culture whether high status (such as knowledge of books and art) or popular (such as knowledge of sports) (Erickson 1996). Enriched knowledge in turn has many

uses, including building yet better networks (because one has something in common with more people) and being better informed about important matters such as health.

Ongoing research is exploring the extent to which network diversity may be the means by which other well known predictors of desirable outcomes may actually work. For example, Putnam (2000) and others have conjectured that voluntary association activity leads to wider networks (which my research in Canada shows is true; Erickson 2004) and it is these wider networks which make association activity a good predictor of political participation, tolerance, volunteering and so on.

Most of the research using the position generator has focussed on social capital for individuals, but the position generator can also be used to assess the social capital of communities. Woolcock (1998) argues that communities prosper when they have both of two critical kinds of social capital. First, communities need extensive ties between people *in* the community, so that people can communicate, plan, and organize effectively for common good. Thus for example, the higher levels of social capital in smaller communities in Canada, and in the Atlantic region (Erickson 2004), are likely to be one reason why these areas can mobilize effectively in the face of challenges, such as the well known Atlantic response to the 9/11 crisis. Second, in order to prosper communities also need rich linkages to a variety of people *outside* the community, so as to have access to resources beyond those in the community alone. These ideas are quite testable, and are being tested now for coastal communities in British Columbia. The “Resilient Communities Project” has selected two dozen coastal communities, is assessing their resilience in the face of globalization and other threats to community well-being, and is investigating the role that internal and external social capital may play. The Appendix includes their form of position generator, which gives people a list of occupations and asks whether the respondents know people in each occupation *in* their community (to measure the richness of internal social ties) and whether respondents know people in each occupation *outside* their community (to measure richness of access to external people and their resources) (see Matthews 2003). When applied to communities, position generators can be analysed in many ways. For example, one might predict that more resilient communities have higher average levels of network diversity both within and outside the community. Here, one need only find the network diversity scores for individual respondents and average them for each community. But simple community averages neglect the patterns of internal and external ties. Variations in these patterns could well turn out to be critical. For example, a community with a relatively high average diversity of external ties might only prosper if the external linkages are not monopolized by a particular subgroup in the community, such as a local elite or one well-placed ethnic subgroup. Similarly, ties within the community can only serve as a strong informal organizational base if ties link all parts of the community, instead of being much stronger within than between different segments of the community. Much work remains to be done on theorizing such complexities and testing hypotheses for communities.

The position generator also has known *good measurement characteristics*. I will discuss these in more detail below when reviewing various alternative forms of position generator, and give summary evaluations here. Administration is easy and efficient in any standard data collection format. I have used position generators successfully in face to face interviews (e.g. Erickson 1996), telephone interviews (Erickson under review #1), and mailed-out surveys (Erickson 2004). Among those who responded to the surveys, all but 1% or 2% completed the

network item. The item takes little time, typically a few minutes. The position generator provides a highly reliable measure of network diversity, because people are asked about a number of occupations and multiple item measures tend to be reliable. For example, a question asking about 15 occupations produced scales with reliabilities (Cronbach's alpha) of .80 to .86, which is very high (Erickson 2004). Network diversity is not only reliable, it is also easy to use in data analysis. One treats it the same as any other quantitative measure such as years of education or dollars of income.

A good measure of social capital should allow us to compare different places, and to compare people and populations over time. I will discuss these somewhat more complex issues below.

2) *Network Size*

Another potential measure of social capital is the sheer size of a network, or the number of people that a person knows. For example, scholars have often speculated that one key part of the "strength of weak ties" is just their number; people have only half a dozen to a couple of dozen strong ties (depending on the measure used) but have several hundred or even on the order of 1500 weak ties in North America (again, depending on the measure used) (McCarty et al. 1997).

But the number of people in a given person's network is a poor indicator of social capital, for several reasons. First, theoretically, the sheer number of people in a network is not a good measure of the potential usefulness of the network. If many of the people in a large network are very much like each other, then they have much the same resources and help to offer, and are redundant. Second, methodologically, it is hard to measure network size. One cannot simply ask people to report their network size, because people do not keep track of this number and can only make a vague guess at it. Russell Bernard, Peter Killworth, and their colleagues have spent decades developing various ways to measure network size (see McCarty et al. 1997 for references). Most of these methods are impractical for large-scale survey research because they are very time-consuming. For example, one line of research has respondents go through randomly chosen parts of the local telephone book looking for names of people they know, a procedure that takes hours. Another, faster approach is to ask people whether they know anyone in categories with known population sizes. The more categories a person knows someone in, and especially the more the person knows people in smaller populations, the larger the person's network must be. There are formulae for estimating network size from this kind of information (see Killworth et al. 1998 and references therein). The position generator asks people whether they know anyone in each of a range of occupations, so the position generator can be used to make an estimate of network size so long as one asks about occupations with known population size – such as occupations reported in the census. Moreover, the position generator provides rich information about the *kinds* of people in a network and the kinds of resources they are likely to have. Since the position generator is a better measure than network size, and can be used to provide estimates of network size, it is a clearly dominant strategy.

3) *The Resource Generator*

Finally, one can measure social capital with a "resource generator" that asks people whether or not they know others who could provide various kinds of important assistance. For example, a recent national study in the Netherlands asked people whether they knew anyone who had each of 35 kinds of potential resources such as high income, skills, ability to give advice,

and so on (Van der Gaag and Snijders 2004:212-213).

While very useful, resource generators are not good fundamental measures of the social capital in a network. It is a person's location in social structure that is the most fundamental indicator of the resources the person can supply. Thus, for example, if a person in a network has resources to offer, these resources stem largely from the person's occupation and related characteristics. The potential resources in a network are indeed important, but if one measures only that, one cannot tell what the network sources of such support may be – that is, what kinds of networks provide what kinds of support. Those interested in support should use *both* a resource generator and a position generator, and then determine what kinds of links to occupations produce what kinds of support. Moreover, the occupations of people in a network are correlated with a wide variety of potential resources, while any resource generator can only ask about a limited subset of this potential range, so the position generator is the more widely useful measure of social capital. I recommend always using a well designed position generator, and where appropriate, combining this with a resource generator meant for a specific substantive application. For example, the resources related to health maintenance, to occupational success, and to civic engagement are all rather different. Van der Gaag and Snijders (2004:212-213) give a range of resource generator items for the Netherlands, in a survey which also included a position generator. The Canadian General Social Survey Cycle 17 includes several useful measures of social support, though without a position generator. Resource generators are very flexible in their substantive coverage and should be chosen depending on research goals.

WHICH POSITION GENERATOR? THE CHOICE OF OCCUPATIONS

General Desirable Features of Occupations for a Position Generator

Given that the position generator is the best general approach to measuring social capital, one still must decide which particular version to use. In this section I address the question of the choice of occupations to ask about. Later, I consider other kinds of things one can add to the measure, such as the gender of persons known.

There are some desirable general features for the occupations in a position generator. The occupations should range widely in prestige, in order to meet the theoretical goal of measuring access to different parts of social structure and their differing resources. It is also useful to represent different sectors of the economy, further enhancing measurement of access to different kinds of structural locations. The occupations should have fairly large populations, since few if any people will know anyone in a very small occupation. Asking about tiny occupations is largely a waste of time (since there will be little variation in responses) and is potentially annoying for the respondents (since giving positive responses is more enjoyable). The occupations should have clear titles that all respondents will understand. If good census information is available (as it is in Canada), one should always use occupational titles from the census so that one can use census information (as in Erickson under review #2). The list should be fairly long, since adding more occupations to the generator takes very little added time (once people have gotten into responding, things go very fast) while adding greatly to the information the measure provides. I and many others have had good results with lists of 30 occupations (e.g. Erickson under review #1).

Choices Useful for Comparison Within and Between Societies

To be useful in both pure and policy research, the occupations in a position generator

should allow effective comparisons between different places such as regions of Canada or Canada and other countries. We know that position generators can be used, very effectively, in many kinds of areas and societies, because this has already been done. In Canada, I have compared four regions (the West, Ontario, Quebec, and the East) and compared rural to urban areas (Erickson 2004), while Ralph Matthews and his colleagues are comparing 24 coastal communities in B. C. (Matthews 2003). Nan Lin and I are currently editing a book including position generator studies done on four continents, including countries of quite different kinds. This volume alone will include position generator research from North America (both Canada and the United States), South America (Chile), Western Europe (the Netherlands, Italy), Eastern Europe (Hungary, both before and after transition), and some quite varied Asian countries (state-centred China, more free market Hong Kong, free market and democratic Japan and Taiwan, and post-transition and still quite poor Mongolia).

Granted that the position generator strategy works everywhere, what particular kind of position generator will allow true comparisons from place to place?

One strategy is to use position generators that are theoretically equivalent though not identical in their selection of occupations. In practice, this is the strategy researchers have been using. Researchers have so far used many different lists of occupations in their position generators because they wish to use a measure that translates the general theoretical objective of a position generator into a measure suited to the research context. The Appendix gives a selection of examples from Canada and elsewhere, to illustrate the great variability of current research practices. Researchers have developed lists of occupations that have useful resources, that have sizable sizes, and that vary widely in prestige IN the particular research context. As one striking example, Johnson's study of Ulaanbatar (in Mongolia) included whether or not respondents knew a lama – an important role in Mongolian society although not in many others. The theoretical equivalence strategy has worked quite well. For example, Lin (1999) compares access to network diversity and its effects on occupational attainment in several countries. Since the countries are quite different (USA, Canada, the Netherlands, East Germany, Hungary, and Taiwan), the position generators used were all somewhat different, but their results were comparable and largely consistent.

However, it would be even more useful to use the same standard list of occupations in every study, to allow complete comparability across time and place. Such a list should include the same titles in most cases, though it could include locally appropriate versions of broad occupational categories (such as "lama" in the Mongolian study and "pastor, priest, or other church leader" in the B.C. study). Such a standard list could also be enriched with added occupations to suit local conditions or to suit particular research goals such as adding extra health-related occupations to a health study.

To date, the most serious attempt at strictly comparable research is Kakuko Miyata's replication in Japan of my position generator for Canada; we are currently working on a paper comparing the sources of social capital in Canada and Japan, and finding results that make excellent sense given structural and cultural differences between our two countries. However, even this example is not a complete and literal replication, since Professor Miyata felt it necessary to modify my list of occupations somewhat to suit the Japanese occupational structure. The Appendix includes both the Canadian and the Japanese position generators. Both of these position generators are quite short (just fifteen occupations). By using a longer and more

diversified list, one can be sure to include occupations important in many countries, allowing stricter international comparability. Comparability is especially easy to attain for highly developed countries, whose occupational structures and prestige hierarchies resemble each other closely.

A Proposed Strategy for Choosing Occupations

One starting point is the list of 15 occupations used in the Canadian Federal Election Study of 2000 (Erickson 2004), since repeating this would allow one to compare future research in Canada to the results for 2000. This list is based on results for Canada as a whole, such as the number of people in each occupation across the country. The list can be extended to include more of the major sectors of the Canadian economy. Further, in our highly urbanized country, national results are dominated by urban results. For the 2000 list I deliberately included “farmer” to give some representation to the non-urban world, but this could be enriched. For example the study of coastal communities in B. C. (Matthews 2003) used an entirely different set of occupations that are important in such small, resource-dependent places; occupations included logger, mine manager, First Nation Chief and so on. A selection of such occupations, added to the 15 in the study done in 2000, would facilitate comparisons between more and less urban areas. I suggest adding “miner” since mining is an important industry in many countries, while some of the other B.C. industries (notably fishing and forestry) are not so widespread around the world. Further, future comparisons should be made between Canada and other countries. Much of the world is less urbanized and less post-industrial than Canada. Adding more occupations from the primary and secondary sectors would enhance international comparisons as well as regional comparisons in Canada.

Choices Useful for Comparisons Over Time

Again for both policy and pure research applications, comparisons over time are highly important. Sequential cross sectional studies, using different samples from the same population at different times, are useful for tracking overall changes in the levels of social capital. For example, one could for example start to address Putnam’s (2000) famous claims that social capital is declining. Such studies are also useful for tracking changes in relationships between social capital and its causes and effects. For example, as women in Canada continue to move into all segments of the working world, do gender differences in networks decline? As the distribution of jobs becomes more and more post-industrial, with more and more jobs that emphasize dealing with people more than things, does network diversity become a stronger predictor of occupational attainment?

Tracking change over time requires using the same list of occupations at different times. Thus using the 15 occupations from the 2000 study in Canada, as suggested above, would get such long-term tracking started. There are also a number of very good studies that have already been done in other countries, including nation-wide studies in the Netherlands, Hungary and Taiwan. It would be useful to take advantage of the already existing information by adding in some occupations used in these earlier works.

True longitudinal work, in which the same people are studied at two or more different points in time, is the most desirable since one can sort out causal connections as well as tracking overall trends. To be useful in longitudinal work, a measure should have several characteristics. Assessing these features for weak ties has been impossible until recently because of the sparsity of panel data on weak ties. Until recently we had no longitudinal data on weak ties except for

one study of first year students at one college (Feld 1997), hardly a representative group. Fortunately panel studies are now under way in Canada, Japan, and the Netherlands. The only results available at this point are some for Canada. All the people who responded to the 2000 Canadian Federal Election Study in Ontario were approached again in the summer of 2002, a time lag of about one and a half years. They were given the same position generator question they had already answered in 2000. 307 people completed the position generator at both times. In both waves, people were asked whether they knew a man in each occupation, and whether they knew a woman in each occupation. Thus there are 30 kinds of ties to consider (ties to men and to women in 15 occupations).

One desirable characteristic is reliability over time. Networks change, but gradually, so most ties or non-ties stay the same from one year to the next. Thus people who report knowing a kind of person in 2000 should report knowing that kind of person in 2002. For each of the 30 kinds of people, I computed the % of those who reported knowing such a person in 2000 who still reported knowing one in 2002; the mean was 73% and median 77%. Similarly, those who did not report knowing a kind of person in 2000 should still report not knowing one in 2002, though the persistence rate of non-ties may be lower because people tend to add ties to their networks over time. I calculated the % of those who did not report knowing a kind of person in 2000 who again reported not knowing one in 2002; the mean was 66%, median 64%.

Though a measure should have enough stability to indicate reliable measurement, it should also measure something that has a substantial amount of change over time so that one can analyse how change in the variable of interest is related to change in supposed causes and effects. Past research indicates that strong ties change substantially over a year, with about one third of strong ties being replaced (Suitor et al. 1997). But weak ties might be stickier, because they require much less investment or commitment. It could be possible that weak ties change so slowly that social capital is much the same from one year to the next, which would make it difficult to detect causal connections. But the Ontario results are reassuring on this point. There was a usefully substantial amount of change, both in ties added and ties lost. Ties were added when a person did not report knowing someone of a given kind in 2000 but did report knowing one in 2002. Across the 30 kinds of possible contact, on average over a third of people without a tie in 2000 added one by 2002 (the % of those without a tie who later reported having such a tie had a mean of 35% and a median of 37%, with a range from 5% to 63%). Ties were lost when a person reported having a kind of tie in 2000 but not in 2002. Of those who had a kind of tie in 2000, about a quarter lost this connection (the mean was 28%, median was 24%, and range 10% - 60%). The total amount of change (both from reporting a tie to not reporting it, and from not reporting to reporting) was on average over a quarter of responses (mean 27%, median 28%).

Another question critical to good longitudinal research is: does the observed change in a measure reflect real change or measurement error? The substantial change in the Ontario data would be of no value if it were just a question of poor test-retest reliability, as would be the case if respondents just happened to think of one of their contacts at one time but not at the other. This is a particularly plausible scenario for weak ties as compared to strong ones, since people have less contact with people they know little and care about them less. If people just happen to think of some ties in one survey year and not in another, random forgetting should affect both years in about the same way; so the number of times a respondent reports a kind of tie in 2000 but not 2002 should be similar to the number of times he or she reports it in 2002 but not in

2000. However, these two variables are not related at all (their correlation is .026). Further, random forgetting should be similar across targets (ties to men and to women in 15 occupations) but this also is not true. The rate at which people reported a tie to a kind of person in 2002, but not in 2000, ranged from 10% to 60%.

If people are reporting fairly accurately on the whole, and the change in their reports represents real change rather than measurement error, then changes should include theoretically meaningful patterns. We can see examples in the Ontario results. Higher prestige occupations provide better opportunities to make and maintain ties. The potential to make ties should be reflected in consistently higher rates of people reporting adding a tie, that is, people should more often report no tie to an occupation in 2000 but report one in 2002 if the target is a higher prestige occupation. In the Ontario panel study, for all the middle class occupations (with prestige scores over 50) 27% or more of the respondents reported adding a tie. For other occupations (prestige scores at most 40) there were 6 examples of lower rates of adding ties, from 22% down to a low of 4%. The middle class potential to maintain ties should be reflected in higher rates of reporting a tie in 2002 among those who reported one in 2000. This rate is 60% or more for all higher prestige occupations, but less than 60% for six lower prestige occupations, which have retention rates from 58% down to 40%.

Finally, this report has emphasized the importance of occupational variety in social networks. If variety is important, then it is also important that there be a useful amount of change in variety over time, for longitudinal work. I calculated network variety for each respondent, measuring this as the simple count of the number of occupations in which the respondent knew someone, for both waves of the Ontario respondents. I then found change scores by subtracting the earlier diversity score from the later one. Table 1 (at the end of the text of this report, before the reference, Appendix, and included papers) is highly encouraging. Only about 15% of the respondents had exactly the same diversity score at both times (a change score of zero). Only about 38% had very similar scores at both times (no change, or the loss or addition of ties to just one occupation). The extent of change is quite variable, from losing ties to 14 occupations to gaining ties to 14 occupations. The extent and range of change provides useful variation for longitudinal analysis. This compares favourably to many variables which are important in longitudinal processes but which change very slowly, such as marital status or occupation, which stay the same for most people from one year to the next.

Overall, the position generator produces data well suited to longitudinal analysis. Results are stable enough to indicate reliable reporting of enduring ties and non-ties, yet there is enough change to do change analysis, and the patterns of change indicate that the changes are mostly real substantive change rather than random error.

BEYOND OCCUPATIONS

Almost all position generators ask whether the respondent knows anyone in selected occupations. This is a good fundamental first step, because occupations are so strongly related to resources. However, other forms of inequality and difference are also related to resources, in distinct ways that cannot be reduced to occupational differences. Some of these other dimensions of resource distribution can easily be included in a position generator.

One of the most important additions is gender, because gender stratification is an important aspect of all societies. Since men and women have different interests, concerns, resources, information and so on, ties to both men and women are social capital – but for

different kinds of outcomes. For example, a nicely diversified set of ties to women is likely to improve one's knowledge of books (which women read more often than men do) and one's health (since women take more interest in health matters, including both healthy behaviour and the well being of those they know). But ties to men are probably a better source of good jobs, given men's greater prominence in higher ranking jobs. (For a more detailed argument see Erickson 2004). Gender connections are also a very interesting matter for international comparisons since societies vary greatly in their extent of gender stratification, which in turn affects the ways in which men and women form their unequal networks (as in the work Kakuko Miyata are doing on a comparison of Canada and Japan). One can easily add gender to a position generator by asking people whether they know a man in each occupation, and whether they know a woman. One can then add up the number of occupations in which a respondent knows anyone (male or female) to get the traditional position generator measure of diversity. But further, one can add up the number of occupations in which a respondent knows a woman (to measure the diversity of the respondent's ties to women), and one can add up the number of occupations in which a respondent knows a man (to measure the diversity of the respondent's ties to men).

Another important form of inequality is ethnicity, especially in a multicultural country like Canada. When dealing with clearly defined ethnic groups of interest (like immigrant groups or racialized minorities) one can ask people about their ties to co-ethnics and their ties to others. Ties to co-ethnics in a wide range of occupations are likely to lead to good jobs in the ethnic economy, to activity in ethnic community affairs, and to sustained ethnic identification. Ties to others in a wide range of occupations are likely to lead to better mainstream job opportunities, to mainstream civic engagement, and to more complex ethnic identifications such as hybridized senses of self. Or, one can select a small number of groups of interest and ask about ties to people in each of these (as I am now doing, with a recent SSHRC grant, for Blacks, Chinese, Italians, and all others combined, for Toronto). Still another variation, important for immigrants and especially for transnational activities including entrepreneurship, is to ask people about their ties to co-ethnics here, to people in their homeland, and to mainstream people here. One of my graduate students, Wenhong Chen, is pursuing this strategy for her dissertation research on transnational entrepreneurs of mainland Chinese origin. While this form of position generator is still new and relatively untried, past research has been quite successful in asking people about the ethnicity of their contacts, *provided* that the contacts are left anonymous. For example, one asks something like what proportion of a person's coworkers are of a given ethnicity, but one does not ask who the coworkers are. The position generator leaves a person's contacts quite anonymous, and hence adding ethnicity to the question should be viable. My current project will assess the viability of this approach.

When dealing with community social capital, it is often important to consider the richness of social networks both in the community and between the community and the outside. If people within the community have many connections to others including others of different occupational standing, then the community has a good informal organizational basis for spreading the news, getting together, and tackling community problems. If the community has diverse ties to the outside world, this improves chances of tapping into external resources, which can be especially important for disadvantaged communities with weak internal resources. Ralph Matthews (2003) and colleagues are using just such a strategy for their study of coastal

communities in B. C., and again, their position generator is in the Appendix.

I have noted several examples of combining occupation with some other important feature of people in networks. These examples include work in different locations (Canada, coastal B.C. in particular, the USA, Japan) and work using different kinds of additions to occupations. All of the variations so far used have gone very smoothly, with short response times, high response rates, and good reliabilities for special subscales such as the occupational diversity of one's ties to men and one's ties to women (e.g. Erickson 2004). However, one must use some restraint; it probably would not work to combine occupation with several other features of alters, nor to ask about too many subtypes of one kind of feature such as dozens of different ethnic groups.

CONCLUSIONS

I thus conclude that the position generator is, in general, the desirable basic measure of weak tie social capital. It has a theoretical foundation, a known track record to relationships with important causes and consequences, and excellent measurement characteristics. It is easy, fast, reliable, and well suited to comparisons across time and place. In particular, I recommend establishing a single standard list of occupations to be included in all future work using the position generator. I also recommend using gender, that is asking about ties to men and to women in the selected occupations. Gender is always important, and easy to ask about.

RECOMMENDED MEASURE FOR PRETESTING

1) The position generator needs an introductory statement; the wording depends on the form of administration.

For face to face or telephone interviews, the interviewer can say:

I will now ask you whether you know people in some kinds of work, for example whether you know any carpenters. I will ask you whether you know any women in each kind of work, and whether you know any men. You do not have to know these people really well, but should know them by name and by sight and well enough to talk to.

For self-administered surveys such as mailed-out surveys, the printed question can begin in an expanded version of the introduction used in the Canadian Federal Election Study of 2000:

Here is a list of occupations. Please put a circle in the appropriate column if you know any men (column 1) or any women (column 2) in each of these occupations. You do not have to know these people really well, but should know them by name and by sight and well enough to talk to.

2) The position generator needs a list of occupations. Here is a list chosen to vary in occupational prestige, gender composition, and sector, while avoiding very small occupations (as reported in the census). I show these by type of occupation, roughly from higher to lower in prestige, to make the basis of selection clear to the viewer. However, the actual question should randomize the order of occupations to avoid order effects. All of the occupations were chosen from the census, so French translations of the occupational titles are readily available.

TYPE OF OCCUPATION/
Specific Occupation

HIGHER PROFESSIONS

Lawyer
High School Teacher
Dentist
Pharmacist

MIDDLE MANAGERS

Sales and marketing manager
Human resources manager

BUSINESS PROFESSIONS

Accountant or auditor
Bookkeeper

OTHER PROFESSIONS

Computer programmer
Social worker
Nurse

ART AND CULTURE

Musician or singer
Writer
Photographer
Interior designer

SALES AND SERVICE

Security Guard
Cashier
Server
Janitor or caretaker

TRADES AND TRANSPORT

Carpenter
Tailor, dressmaker, or furrier
Delivery Driver

AGRICULTURE OR PRIMARY SECTOR

Farmer
Miner

MANUFACTURING

Sewing machine operator
motor vehicle assembler

TABLE 1:

CHANGE IN NETWORK DIVERSITY FROM FALL 200 TO SUMMER 2002
ONTARIO RESPONDENTS TO THE FEDERAL ELECTION STUDY OF 2000

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APPENDIX

EXAMPLES OF POSITION GENERATORS

EXAMPLES USED IN CANADA

- A1 Used in Toronto, private contract security industry, 1992
- A2 Used in Toronto, LETS association, 1996
- A3 National sample of Canada, from Canadian federal election study, 2000
- A4-6 Used in environmental groups, British Columbia, 1992
- A7 Used in coastal communities of British Columbia, 2002-2003
- A8 Used in Japan, 2002
- A9 Used in Taiwan, 1997
- A10 Used in Ulaanbator, Mongolia, in 2002
- A11 Used in Hungary, 1997, 1998, 2000